Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

1. (Currently Amended) A method, comprising applying a morphological operation to an SEM image to obtain a idealized image, the morphological operation being an image processing operation using shift-invariant operators and the idealized image having fewer details than the SEM image; and using the idealized image to detect a defect in a subject of the SEM image.

2 - 12. (Cancelled).

13. (New) The method of claim 1, wherein the defect is detected by image comparison between the SEM image and the idealized image.

14. (New) The method of claim 13, wherein the image comparison comprises subtraction such that an image obtained after the morphological operation reveals only details that have been removed by the morphological operation.

15. (New) The method of claim 13, wherein the comparison comprises a thresholding operation

16. (New) The method of claim 1, wherein the morphological operation comprises at least one of: erosion, dilation, opening, closing, shrinking, thinning, thickening, skeletonization, and pruning.

17. (New) The method of claim 1, wherein the morphological operation comprises a sequence of morphological operations.

18. (New) The method of claim 1, wherein the morphological operation makes use of structuring elements that match one or more morphological properties of a pattern present in the SEM image.

19. (New) The method of claim 18, wherein at least one structuring element is smaller or equal to a minimum distance between objects in the SEM image.

20. (New) The method of claim 1, wherein the morphological operation makes use of structuring elements that do not match one or more morphological properties of a pattern present in the SEM image.

21. (New) The method of claim 1, wherein at least some patterns present in the SEM image are modified by the morphological operation while other patterns present in the SEM image are not modified by the morphological operation.

22. (New) A method, comprising applying a sequence of morphological operations to an image, the morphological operations making use of structuring elements that match or do not match some morphological properties of a pattern present in the image, and detecting defects in a subject of the image as a consequence of some of said patterns being modified by the morphological operations while others are not.

23. (New) The method of claim 22, wherein the morphological operations use translation invariant operators.

24. (New) The method of claim 22, wherein the morphological operations include one or more of: erosion, dilation, opening, closing, shrinking, thinning, thickening, skeletonization, and pruning.

25. (New) The method of claim 22, wherein a resulting image of the morphological operations is subtracted from the image to reveal details that have been removed by the morphological operations.

26. (New) The method of claim 22, wherein the structuring elements are smaller or equal to a minimum distance between objects in the image.

27. (New) A method, comprising applying a morphological operation to an SEM image to obtain a idealized image, and using the idealized image to enhance a feature of a subject of the SEM image.

28. (New) The method of claim 27, wherein using the idealized image comprises comparing the SEM image and the idealized image by way of subtraction.

29. (New) The method of claim 27, wherein the morphological operation comprises at least one of: erosion, dilation, opening, closing, shrinking, thinning, thickening, skeletonization, and pruning.

30. (New) The method of claim 27, wherein the morphological operation comprises a sequence of morphological operations.

31. (New) The method of claim 27, wherein the morphological operation makes use of structuring elements that match one or more morphological properties of a pattern present in the SEM image.

32. (New) The method of claim 31, wherein at least one structuring element is smaller or equal to a minimum distance between objects in the SEM image.

33. (New) A method, comprising applying, as an image preprocessing operation, a morphological operation to an SEM image to obtain a resulting image that is a modification of SEM image in which a defect in a subject of the SEM image is more easily detectable that in the SEM image.

34. (New) The method of claim 33, wherein the defect is detected by image comparison between the SEM image and the resulting image.

35. (New) The method of claim 34, wherein the image comparison comprises subtraction.

36. (New) The method of claim 34, wherein the comparison comprises a thresholding operation

37. (New) The method of claim 33, wherein the morphological operation comprises at least one of: erosion, dilation, opening, closing, shrinking, thinning, thickening, skeletonization, and pruning.

38. (New) The method of claim 33, wherein the morphological operation comprises a sequence of morphological operations.

39. (New) The method of claim 33, wherein the morphological operation makes use of structuring elements that match one or more morphological properties of a pattern present in the SEM image.

40. (New) The method of claim 39, wherein at least one structuring element is smaller or equal to a minimum distance between objects in the SEM image.

41. (New) The method of claim 33, wherein the morphological operation makes use of structuring elements that do not match one or more morphological properties of a pattern present in the SEM image.

42. (New) The method of claim 33, wherein at least some patterns present in the SEM image are modified by the morphological operation while other patterns present in the SEM image are not modified by the morphological operation.